

MCI WORLD COM

ORIGINAL

R. Dale Dixon, Jr.
Associate Counsel

EX PARTE OR LATE FILED

Local Markets & Enforcement
1801 Pennsylvania Avenue, NW
Washington, DC 20006
202 887 2383
Fax 202 887 2383

April 12, 1999

EX PARTE

VIA HAND DELIVERY

Magalie Roman Salas, Secretary
Federal Communications Commission
445 12th Street, SW
Room TWB-204
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Re: GTE Corp. and Bell Atlantic Corp., CC Docket No. 98-184

Dear Ms. Salas:

On behalf of MCI WORLD COM, Inc. ("MCI WorldCom"), I am submitting the attached letter to Thomas Krattenmaker in the public record for the above-captioned matter.

An original and twelve copies of this filing are enclosed. If you have any questions, please do not hesitate to contact me at 202-887-2383.

Sincerely,



R. Dale Dixon, Jr.

Enclosure

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**MCI Telecommunications
Corporation**

1801 Pennsylvania Avenue, NW
Room 418
Washington, DC 20006
202 887 2992
FAX 202 887 2772

Lisa B. Smith
Senior Policy Counsel
Local Markets and Enforcement

April 12, 1999

Via Hand Delivery

Mr. Thomas Krattenmaker
Federal Communications Commission
445 12th Street, SW
Eighth Floor
Washington, D.C. 20554

Re: GTE Corp. and Bell Atlantic Corp., CC Docket No. 98-184

Dear Mr. Krattenmaker:

This responds to Bell Atlantic's and GTE's February 24, 1999 *ex parte* submitted in the above-referenced proceeding.¹ In that *ex parte*, Bell Atlantic and GTE presented a joint proposal intended to explain their request for "transitional" relief from section 271.² The filing is an attempt to assuage the concerns of the Federal Communications Commission (the "Commission") regarding long distance service restrictions that prohibit the Commission from approving the proposed merger to the extent it would permit Bell Atlantic to provide interLATA services directly or through an affiliate. Bell Atlantic and GTE, by their joint request, seek to eviscerate the application of section 271. In essence, Bell Atlantic and GTE have asked the Commission to permit the proposed merged entity to provide in-region, interLATA telecommunications services, including information services, upon Commission approval of the merger application.³ If granted, the requested relief would take effect prior to Bell Atlantic's

¹ See Bell Atlantic-GTE *ex parte* dated February 24, 1999, from Steven G. Bradbury, Counsel for GTE, and Michael E. Glover, Counsel for Bell Atlantic, to Thomas Krattenmaker ("Bell Atlantic-GTE Letter").

² See BA-GTE Merger Application 19, n.14.

³ As explained throughout the instant letter, the Commission has ruled repeatedly that section 271 cannot be waived in any respect. Further, in a recent decision, the Commission was

receipt of the requisite long distance authority from the Commission under section 271 of the Act.⁴

Section 271 specifically restricts Bell Atlantic and any Bell Atlantic affiliate from providing interLATA services in any part of a state in which Bell Atlantic or an affiliate was providing "wireline telephone exchange service pursuant to the AT&T Consent Decree."⁵ As discussed more fully below, over two years ago the Commission clarified that section 271 applies fully to both interLATA telecommunications services and interLATA information services.⁶ The Commission also recently concluded that advanced telecommunications services also are subject to the restrictions of section 271.⁷ The Commission has not only determined that

clear in its determination that section 271 contains no *de minimis* exception: "It is true that section 271 contains no *de minimis* exception. It states merely that neither a BOC nor its affiliates may 'provide' in-region, interLATA service without Commission approval. The statute would not, for example, permit a Bell Operating Company ("BOC") to provide presubscribed interLATA transmission service on an ongoing basis to a small number of in-region subscribers. This very likely would amount to the 'provision' of service in violation of the statute's injunction." *AT&T Corp. v. BellSouth, et al.*, File No. EAD-99-001, DA 99-609 ¶ 28 (rel. March 30, 1999).

⁴ Bell Atlantic and GTE argue that the requested relief, if granted, would take effect only after Bell Atlantic receives section 271 authority for more than one-quarter of its access lines. Of course, Bell Atlantic's offer of 25 percent coverage is no accident. Indeed, New York alone has about 30 percent of all Bell Atlantic access lines. *See Local Competition Report*, Federal Communications Commission (rel. Dec. 4, 1998) at Table 3.1. Regardless, Bell Atlantic is asking the Commission to exempt Bell Atlantic from section 271 requirements throughout its region, without any effort to satisfy the requirements of section 271 in each of its states. Indeed, based on Bell Atlantic's proposal, it would seem that Bell Atlantic, upon receipt of section 271 approval for say, New York, would not need pursue any additional such applications for its region for a period of two or more years.

⁵ 47 U.S.C. §§ 271(b)(1), 271(i)(1).

⁶ *Implementation of the Non-Accounting Safeguards of Sections 271 and 272 of the Communications Act of 1934*, as amended, First Report and Order and Further Notice of Proposed Rulemaking, 11 FCC 21905 ¶ 85 (1996) ("*Non-Accounting Safeguards Order*").

⁷ *In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Memorandum Opinion and Order, and Notice of Proposed Rulemaking, CC Docket No. 98-147, FCC 98-188 ¶¶ 35-37 (rel. Aug. 7, 1998) ("*Advanced*").

section 271 prohibits Bell Atlantic's provision of in-region, interLATA services, it also has emphatically and repeatedly stated that it has no authority to waive or modify section 271. Thus, Bell Atlantic's and GTE's request for transitional relief must be denied.

For reasons detailed in MCI WorldCom's Comments in this proceeding,⁸ the merger between Bell Atlantic and GTE is anticompetitive and should not be approved under any circumstances. Further, the Internet business is highly competitive. The proposed merger would only remove Bell Atlantic as a potential entrant into this Internet business until it properly receives section 271 authority by complying with the Act. Indeed, we believe that a Bell Atlantic-GTE merger, without appropriate conditions for local market competition, would inhibit, not promote, competition in the Internet market. As a result, a combined Bell Atlantic and GTE — notwithstanding the request for relief — would threaten the vibrant competition that characterizes the Internet generally.

A. Bell Atlantic's purported LATA boundary relief is impermissible.

Bell Atlantic's attempt to backdoor its request by calling it a LATA "modification" is disingenuous. In effect, Bell Atlantic is asking that the Commission abolish LATAs for data services in its region. This is not a modification; rather, it is a wholesale end-run around section 271. The Commission has already recognized that it lacks authority to forbear from applying section 271 to the provision of advanced services by ILECs: "Under section 10(d), we may not use that authority to forbear from applying the requirements of . . . 271 prior to their full implementation."⁹ Applying section 10's explicit forbearance restrictions, the Commission rejected the BOCs' request for large-scale changes in LATA boundaries.¹⁰ The Commission concluded that such a request is "functionally no different" from the incumbents' forbearance requests and is therefore prohibited by section 10(d).¹¹ According to this Commission, "[s]uch far-reaching and unprecedented relief could effectively eviscerate section 271 and circumvent the pro-competitive incentives for opening the local markets to competition that Congress sought to

Services Order").

⁸ See MCI WorldCom Comments, CC Docket No. 98-184 (filed Nov. 23, 1998); see also MCI WorldCom Reply Comments, CC Docket No. 98-184 (filed Dec. 23, 1998).

⁹ *Advanced Services Order and NPRM* ¶ 77 (rel. Aug. 7, 1998).

¹⁰ *Id.* ¶ 82.

¹¹ *Id.* (stating that "[i]t would exalt form over substance if we were to grant the requested large-scale changes in LATA boundaries.").

achieve in enacting section 271 of the Act.”¹² The Commission’s position on this issue cannot be any clearer.

Indeed, the Commission has held that LATA modification is available in only limited circumstances.¹³ Bell Atlantic and GTE go well beyond the narrow exceptions recognized by the Commission. The Commission has acknowledged that the existing LATA boundaries serve as a powerful incentive to the BOCs to open their local markets, and thus, it has determined that no interLATA relief will be granted unless a BOC satisfies the substantive requirements of section 271.¹⁴ Further, this Commission has declared that BOCs should not be granted LATA boundary waivers “that could permit a ‘piecemeal dismantling’ of the prohibition on the BOCs’ provision of interLATA service.”¹⁵ Bell Atlantic’s brazen request cannot, under the best circumstances, be classified as even “piecemeal.” MCI WorldCom has cautioned the Commission against being unwittingly lured into costly and wasteful case-by-case determinations of LATA modifications.¹⁶ Bell Atlantic has the ability to obtain relief from all section 271 prohibitions, including LATA restrictions, by complying with the statutory requirements enacted to open their local markets to competition and proving that their provision of in-region, interLATA services is in the public interest.

B. The Commission should deny Bell Atlantic’s most recent request for the same reason it previously denied similar ones.

This is not the first time Bell Atlantic has requested this unjustifiable relief. As explained below, for the same reasons MCI WorldCom has previously opposed similar BOC requests in the

¹² *Id.*

¹³ Note that MCI WorldCom maintains that these circumstances are even more limited than the FCC believes.

¹⁴ *In the Matter of Petition for Declaratory Ruling Regarding U S WEST Petitions to Consolidate LATAs in Minnesota and Arizona*, NSD-L-97-6, DA 97-767 (rel. April 21, 1997) at ¶ 27 (citing *United States v. Western Elec. Co., Inc.*, No. 82-0192, slip op. at 3 n.8 (D.D.C. May 18, 1983)).

¹⁵ *Id.* ¶ 28.

¹⁶ See MCI WorldCom Reply Comments, *Advanced Services Order and NPRM*, CC Docket No. 98-147 at 76-77.

advanced services proceedings,¹⁷ and for the same reasons the Commission has steadfastly refused to grant such relief in the past, the Commission should not hesitate to reject the request now before it. Moreover, while Bell Atlantic and GTE try to posture their offer to divest GTE's long distance voice customers in Bell Atlantic's region as a generous concession, it is, in fact, nothing more than an acknowledgment of what the law requires. If Bell Atlantic and GTE want to merge before Bell Atlantic has complied with all the requirements of section 271, nothing less than full divestiture of GTE's entire long distance business, including all assets and facilities used to provide long distance service as well as its long distance customers in the Bell Atlantic region, should be permitted by this Commission.

Interestingly, though presented under a new heading, this proposal for relief is not novel. To the contrary, the Commission has received the same request — albeit in various forms — on at least three separate occasions. The BOCs have made it clear, instead of opening their local markets to competition to earn section 271 relief, they would rather skip the obligation to satisfy those requirements and reap the benefits associated with long distance entry. In fact, it was just over one year ago that Bell Atlantic first asked the Commission to forbear from enforcing the current LATA boundary restrictions and the procompetitive obligations of section 271.¹⁸ Seemingly undaunted, Bell Atlantic asked for similar relief when it filed its "Emergency Petition" regarding advanced services in West Virginia.¹⁹ After failing to gain Commission approval as a result of either filing, Bell Atlantic repackaged its application and again requested

¹⁷ See MCI Communications Corp., WorldCom, Inc., and MCI WorldCom, Inc. Comments and Reply Comments in *Petition of Bell Atlantic for Relief from Barriers to Deployment of Advanced Telecommunications Services*, CC Docket No. 98-11; *Petition of U S WEST for Relief from Barriers to Deployment of Advanced Telecommunications Services*, CC Docket No. 98-26; *Petition of Ameritech for Relief from Barriers to Deployment of Advanced Telecommunications Services*, CC Docket No. 98-32; *Emergency Petition of Bell Atlantic-West Virginia for Authorization to End West Virginia's Bandwidth Crisis*, NSD-L-98-99; *In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147; and *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket No. 98-146.

¹⁸ *In the Matter of Petition of Bell Atlantic Corporation for Relief from Barriers to Deployment of Advanced Telecommunications Services*, CC Docket No. 98-11.

¹⁹ *Emergency Petition of Bell Atlantic-West Virginia for Authorization to End West Virginia's Bandwidth Crisis*, NSD-L-98-99 (filed July 22, 1998).

the same relief in its comments to the Commission's *Advanced Services Order and NPRM*.²⁰

To date, none of Bell Atlantic's requests has been granted by the Commission. Rather, in its *Advanced Services Order*, the Commission soundly rejected the requests.²¹ The Commission correctly concluded that advanced capabilities and services are "telecommunications services."²² Thus, to the extent a BOC's advanced service offering is in-region and interLATA in nature, the BOC is prohibited from providing such service, even through a separate affiliate, until it satisfies the requirements of section 271.²³ No matter how many times Bell Atlantic attempts to alter the window dressing or title of its requests, the same Commission finding is warranted, and indeed required, as a matter of both law and public policy.

C. *The prohibitions of section 271 apply equally to voice and data services, and thus, cannot be waived, directly or indirectly, by the Commission.*

With the prescience of a true soothsayer, Bell Atlantic states in its *ex parte* that "the section 271 approval process throughout the Bell Atlantic region will not be completed by the time the FCC plans to conclude its review of the merger."²⁴ Despite this fact, Bell Atlantic alleges that its markets are open to competitors, that it has met the checklist, and then in three short paragraphs convinces itself that it is well on its way to receiving section 271 authority in New York.²⁵ Self-satisfied with its prediction of inevitable and rapidly approaching section 271

²⁰ *In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, FCC 98-188 (rel. Aug. 7, 1998)

²¹ *Advanced Services Order* at ¶¶ 35-37.

²² *Id.*

²³ See MCI WorldCom Comments, *Advanced Services Order and NPRM*, CC Docket No. 98-147, at 26-45 (explaining that the Commission should not permit a BOC to offer advanced services through a section 272 affiliate prior to the BOC's receiving section 271 authority).

²⁴ See Bell Atlantic-GTE Letter at 3.

²⁵ MCI WorldCom cannot believe Bell Atlantic's gall. It presents its case for section 271 approval in New York in only three paragraphs as though approval were a fait accompli. There is neither a "short-form" 271 application nor any application that permits self-certification. Accordingly, it is wholly improper for Bell Atlantic to expect any sort of relief from section 271 by simply stating that it expects to receive such authority in the future. Section 271 is an all-or-

approval in New York, Bell Atlantic requests Commission intervention that would permit it to offer in-region, interLATA services throughout the region. What does this mean for the rest of Bell Atlantic's region? In essence, it means no local competition for virtually the next two or more years.²⁶

Initially, and contrary to the Commission's previous determination, Bell Atlantic concludes that information services are exempt from the section 271 prohibitions.²⁷ However, section 271(b)(1) requires Commission authorization for *all* interLATA services, which, according to the Commission, includes all in-region telecommunications and information services.²⁸ Indeed, this Commission's interpretation of the relevant law cannot be more definitive. The Commission has concluded that Internet access services should be classified as "information services," and that ISPs provide information services.²⁹ In its *Non-Accounting Safeguards Order*, the Commission also concluded that the term "interLATA services" in section 271 encompasses both interLATA information services and interLATA telecommunications services.³⁰ Further, the Commission explained that "interLATA information services are provided via interLATA telecommunications transmissions and, accordingly, fall within the

nothing provision. Relief from the restrictions of section 271 will be granted only *when* the Commission approves a section 271 application. Despite the fact that section 271 cannot be waived in any fashion, directly or indirectly, Bell Atlantic, presuming that it has dispensed with any necessary discussion of its section 271 deficiencies, turns to its requests for "relief."

²⁶ Bell Atlantic indicates that the Commission could extend the two year waiver if deemed prudent to do so. Even assuming Commission authority to grant such a request, MCI WorldCom sees no reason why Bell Atlantic, if it were to comply with section 271 for 25 percent of its lines, would require two or more years to comply with section 271 throughout the remainder of its region. Such a lengthy delay would only serve to further reduce Bell Atlantic's incentive to open all of its local markets to competition — an incentive that can be fully preserved only by refusing to forbear from enforcing any aspect of section 271, just as Congress instructed.

²⁷ Bell Atlantic-GTE Letter at 7.

²⁸ See *Advanced Services Order* ¶¶ 35-37.

²⁹ Report to Congress, In the Matter of Federal-State Joint Board on Universal Service, CC Docket No. 96-45, ¶¶ 73, 66 (rel. Apr. 10, 1998).

³⁰ 11 FCC Rcd. 21905 ¶ 55 (rel. Dec. 24, 1996).

definition of 'interLATA service.'"³¹ It went on to find that "it is a more natural, common-sense reading of 'interLATA services' to interpret it so as to include both telecommunications services and information services."³² Further, as noted by the Commission, the use of the term "interLATA information services" in section 272(a)(2) of the Act indicates that Congress intended the term "interLATA services" to include interLATA information services. This conclusion is reasonable given the fact that Congress mandated that a BOC may provide interLATA data services through an affiliate only after it receives section 271 authorization.³³

Bell Atlantic explains that once it receives section 271 authority for one-fourth of its access lines it should be permitted to offer information services via GTE's Internetworking backbone without being subject to section 271.³⁴ Bell Atlantic has simply ignored the law. On the one hand, Bell Atlantic claims it has no legal prohibitions for providing in-region, interLATA information services. Then, on the other, it seeks special dispensation because it will have allegedly complied with the law. Indeed, the two irreconcilable arguments demonstrate the fact that Bell Atlantic is grasping at straws in a desperate attempt to avoid its statutory obligations under section 271 and to salvage its proposed merger with GTE.

Interestingly, Bell Atlantic never argues that it should receive such transitional relief for voice services. Indeed, in an unusual moment of modesty, Bell Atlantic concedes that it faces a significant and unavoidable section 271 problem with respect to GTE's long distance voice services.³⁵ In order to comply with section 271's restrictions against BOC provision of in-region interLATA services, Bell Atlantic "generously" offers to divest GTE's long distance customers in Bell Atlantic's region following the merger. The Act, as the Commission has determined, is neutral with respect to the technology used in the transmission of telecommunications services, and thus section 271 does not distinguish between voice and data services, or even circuit-switched and packet-switched networks.³⁶ While Bell Atlantic correctly recognizes that it cannot retain GTE's long distance voice business in the Bell Atlantic region following the merger and

³¹ *Id.*

³² *Id.* ¶ 56.

³³ *See* 47 U.S.C. § 271(d)(3)(B).

³⁴ Bell Atlantic-GTE Letter at 1.

³⁵ Bell Atlantic's claim is misguided. Nothing in the Act exempts data services from section 271.

³⁶ *See Advanced Services Order and NPRM.*

prior to its receipt of section 271 authority, Bell Atlantic unabashedly ignores the fact that section 271 applies to *all* in-region, interLATA services, including, without exception, interLATA data services.³⁷

Bell Atlantic and GTE argue incorrectly that Internet services are only peripherally related to the restrictions contained in section 271. Congress could have prohibited BOCs from providing only in-region, interLATA telecommunications services, or even only in-region interLATA voice telecommunications services; however, it deliberately imposed a much broader and more comprehensive restriction applying to all interLATA services. Congress did carve out some interLATA services incidental to other services, but in the case of Internet services, that was strictly limited in section 271(g)(2) to "Internet services over dedicated facilities to or for elementary and secondary schools."³⁸ Bell Atlantic and GTE make up out of whole cloth the notion that section 271 really concerns traditional voice services. To the contrary, because the monopoly leveraging problem is equally severe for all interLATA services, the restrictions of section 271 apply to all interLATA services. As such, to comply with section 271 and to ensure that Bell Atlantic retains its incentive to open its local markets to competition (by obtaining section 271 authority), Bell Atlantic and GTE should be required to divest the entire GTE long distance operation, including assets and customers, in Bell Atlantic's region if their proposed merger is approved and they seek to close before Bell Atlantic obtains section 271 authority in all of its in-region states.

D. Bell Atlantic's and GTE's request for a ninety (90) day transition period to move GTE's long distance voice customers is not justified.

Bell Atlantic's request for a ninety (90) day transition period to move GTE's long distance customers to other interexchange carriers ("IXCs") following the close of its merger is also untenable.³⁹ It is arbitrary and, in the end, unnecessary. In their joint *ex parte*, Bell Atlantic and GTE refer to uncertainties and time constraints that require such time.⁴⁰ However, any time allowances or limitations are self-imposed by Bell Atlantic and GTE. We cannot believe that uncertainty exists with respect to which customers will need to be moved from GTE service. Quite simply, Bell Atlantic is not permitted to provide in-region, interLATA services without first obtaining section 271 authority. Period. The only uncertainty in this matter should be how

³⁷ *Id.* at ¶¶ 35-37.

³⁸ 47 U.S.C. § 271(g)(2).

³⁹ Bell Atlantic-GTE Letter at 3.

⁴⁰ *Id.* at 2-3.

quickly the Commission will reject the unlawful application for relief now before it.

In addition, Bell Atlantic and GTE — no one else — arbitrarily chose the time for the proposed merger. From MCI WorldCom's perspective, should the merger be approved, Bell Atlantic is capable of transitioning GTE's long distance customers located in its region to other IXC's *prior* to consummation of, and as a precondition to, the proposed merger. It is well documented that Bell Atlantic cannot be trusted to comply with its merger conditions.⁴¹ GTE and Bell Atlantic are well rehearsed when it comes to orchestrating delays and renegeing on promises,⁴² and no one should be surprised if, after receiving Commission approval, the merged entity were to fight mightily to avoid disgorging the former-GTE's long distance customers in the Bell Atlantic region.

E. Bell Atlantic's ability to extend its local bottleneck monopoly to the Internet market would hinder Internet development.

The companies' request for relief based on competition in the Internet markets is unfounded, and the requested relief unnecessary as a matter of public policy. For example, one of the most confusing arguments put forth by Bell Atlantic and GTE is the suggestion that the competitive success of the Internet hinges on the participation of a BOC in the provision of Internet and related services. Bell Atlantic argues that GTE's Internetworking assets must be preserved for the merged company to operate if the Internet market is to remain competitive. Bear in mind, Bell Atlantic is the company that filed a petition indicating that it would withhold advanced service deployment unless section 271 forbearance were granted by the Commission.⁴³ Further, the argument ignores the fact that there are many carriers and companies that would like to own and operate the assets of GTE Internetworking. Those companies are just as capable as Bell Atlantic of competing successfully in the Internet market. Although we agree that the Internet has best developed with multiple players, there is no reason why Bell Atlantic should

⁴¹ See Comments of MCI WorldCom, Inc., *In the Matter of Bell Atlantic's Progress Report on Compliance with Bell Atlantic/NYNEX Merger Order Conditions*, File No. AAD 98-24 (filed March 8, 1999).

⁴² *Id.*; see also MCI WorldCom Comments, CC Docket No. 98-184, at 6-13 (citing examples of anticompetitive behavior by both Bell Atlantic and GTE).

⁴³ *Petition of Bell Atlantic for Relief from Barriers to Deployment of Advanced Telecommunications Services*, CC Docket No. 98-11.

believe that it is the only carrier that can advance competition in the market.⁴⁴ We believe, instead, that Bell Atlantic, given its monopoly control over the local bottleneck, has the unique ability to *hinder* development of the Internet and advanced services market in its region by virtue of this control.

The reality that will emerge if Bell Atlantic is permitted to control GTE Internetworking prior to receiving section 271 authority is frightening. Bell Atlantic believes that it, and not any other carrier, can make the most out of GTE's Internetworking assets because Bell Atlantic possesses what no other potential non-LEC competitor can bring to the data services market in its region — control over the local loop. By exercising its control over the local exchange network and extending it to the Internet and related services, Bell Atlantic hopes to expand its monopoly and further subvert competition -- now in the data services market. This is a dangerous proposition. Bell Atlantic and GTE state in their joint *ex parte* that "as [current Internet backbone providers'] networks continue to grow relative to other providers, more and more customers will be pushed to those networks, creating a snowball effect that leads to further concentration."⁴⁵ ISPs that lack bottleneck control of access to the Internet could not achieve such a snowball effect. But, ironically, with an Internet backbone, monopoly control over the local loop, captive local voice customers and data service offerings, this is exactly what Bell Atlantic would hope to achieve if the Commission were to approve its request.

In addition, by controlling the backbone, Bell Atlantic would be able to distort the Internet and related services market in a manner that would protect its integrated services digital network ("ISDN") revenues and other services. Such control would enable — just as the New York Department of Public Service warned in its comments in the section 706 Order proceeding — Bell Atlantic to shift customers "to an affiliate that provides combined voice/video/data [services, thereby leaving] the ILEC serving only consumers who cannot afford such services, or whose facilities have not been modernized to maintain the provisioning of basic

⁴⁴ If no purchaser of GTE Internetworking could use those assets as effectively as GTE or Bell Atlantic, and if any diminution in the effectiveness of competition from GTE Internetworking would threaten Internet competition (neither of which propositions Bell Atlantic has proven), then the better solution would be to prohibit Bell Atlantic from acquiring GTE until its obtain section 271 authority throughout its region -- which would appropriately increase Bell Atlantic's incentives to comply with the market-opening incentives embodied in section 271.

⁴⁵ Bell Atlantic-GTE Letter at 6.

telecommunications services."⁴⁶ To that end, Bell Atlantic would effectively hinder the development of a competitive advanced services market just as it has for the local market.

According to Bell Atlantic and GTE, GTE Internetworking will be strengthened if it can "draw on Bell Atlantic's existing marketing channels and established customer relations."⁴⁷ That is not allowed before a BOC complies with section 271, and then only with compliance with its section 272 obligations. "Drawing on" the established monopoly position of the BOCs for the purposes of providing long distance service prior to the time local markets are opened to competition is precisely what the 1996 Act prohibits. It is well understood, and the 1996 Act itself recognizes, that monopoly control over local telecommunications bottleneck facilities can be used to impede competition in vertically related long distance markets. The fact that the backbone traffic originates on the Internet does not change the underlying economics or the public policy rationale for the interLATA restrictions.

Virtually all Internet traffic must pass through the ILEC networks before it reaches an ISP. If Bell Atlantic and GTE are able to leverage their control over the last mile to discriminate against unaffiliated ISPs, then Internet competition will be harmed. This will happen if Bell Atlantic and GTE give certain ISPs preferential access to evolving local broadband technologies. Of course, since Bell Atlantic and GTE are in the ISP business, they could decide to extend these preferences to their own affiliated operations -- further magnifying the potential (and incentives) for discriminatory behavior.

F. Granting the requested relief would permit Bell Atlantic to discriminate against Internet competitors.

The declaration by Kenneth Baseman and Daniel Kelley, filed with MCI WorldCom's comments in this merger proceeding, showed that there are many ways in which an ILEC can disadvantage competitors that are dependent on access to the ILEC networks to reach customers. Technical discrimination is a key anticompetitive strategy. Technical discrimination means simply that the ILEC favors its own Internet backbone by refusing to provide the same local network features and functions to its competitors that it is providing to its own vertically related affiliates. At its most basic level, technical discrimination involves a simple refusal to provide any access to competitors. Subtler forms of discrimination — such as bundling network

⁴⁶ See Comments of New York State Department of Public Service, *In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147 (filed Sept. 25, 1998) at 6.

⁴⁷ Bell Atlantic-GTE Letter at 6.

components together to prevent competitors from using them efficiently — are equally effective and even harder to prevent and deter. Technical discrimination may also involve delay in providing a requested network feature until the monopoly firm is prepared to take advantage of it itself. Of course, ILECs can also discriminate on price to accomplish similar objectives.

Baseman and Kelley also pointed out that the rapidly changing technology that is making innovations such as the Internet possible is actually increasing the opportunity for technical discrimination.⁴⁸ The attached affidavit by Dr. Robert Mercer provides evidence of the opportunities for technical discrimination in greater detail. Dr. Mercer shows explicitly how changing technology can exacerbate technical discrimination problems. For example, Internet users are demanding local broadband access, and Digital Subscriber Loop ("DSL" or "xDSL") is being introduced to meet this demand. At the same time, ILECs are putting more fiber into their local networks using digital loop carrier ("DLC") architectures. It may be possible for ILECs to select a broadband/DLC architecture that does not allow efficient unbundling at either the subloop or the wire center, even though an architecture that more readily accommodates unbundling is as good or better, from a technical perspective, as the ILEC's chosen architecture. As a result, customers of ISPs that use the proposed Bell Atlantic-GTE backbone may receive preferential access to this technology.

With recent and contemplated mergers among ILECs, control over the bottleneck facilities that are being used to connect Internet users with their ISPs is being concentrated in fewer and fewer hands. If the mergers being considered by the Commission are approved, two companies will control two-thirds of the lines by which the Internet is being accessed. This will make it significantly more difficult for independent ISPs to survive and prosper. The resulting lack of independent sources of innovation would only reduce technological dynamism in the Internet industry.

G. Conclusion

As MCI WorldCom has noted in many other related filings, the Internet market is becoming even more competitive. Despite Bell Atlantic's characterization of the Internet marketplace, not only is there increasing Internet capacity, many new national fiber networks are underway to satisfy increasing demand for bandwidth. Companies such as Qwest, IXC, Level 3 and others continue to invest in building national broadband networks without seeking or

⁴⁸ See Declaration of Kenneth C. Baseman and A. Daniel Kelley, filed as Exhibit 1 to MCI WorldCom Comments in the Bell Atlantic-GTE Merger Application, CC Docket No. 98-184 (filed Nov. 23, 1998).

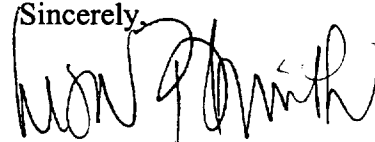
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receiving special government incentives.⁴⁹

The Internet is still a young phenomenon, but it is characterized by three significant features. First, it has developed under competitive circumstances. Second, it is subject to constant change. The Internet looks very different now than it did before the introduction of the World Wide Web. Chances are that five years from now it will look very different than it does today. Third, for the foreseeable future, access to the Internet will be predominately through ILEC local facilities. The Internet has flourished with a competitive structure. Allowing two companies to control the gateway to the Internet for two-thirds of the customer base is very risky.

For the foregoing reasons MCI WorldCom urges the Commission to reject the request for relief submitted by Bell Atlantic and GTE. The proposed relief is contrary to law and objectionable as a matter of public policy. Accordingly, if the Commission finds that Bell Atlantic's acquisition of GTE would otherwise further the public interest, and if Bell Atlantic wants to complete that acquisition before it has obtained section 271 authority throughout its region, GTE should be required to divest all of its in-region long distance assets, customers and facilities as pre-conditions to merger.

Sincerely,



Lisa B. Smith
Senior Policy Counsel
MCI WORLDCOM, Inc.

Enclosure

cc: W. Rogerson
D. Stockdale
M. Carey
M. Kende
T. Truong

⁴⁹ See MCI Communications Corp. Opposition, CC Docket No. 98-11 at 31-33. See also MCI WorldCom *ex parte* letter in CC Docket No. 98-147 dated January 15, 1999, from Richard Whitt to Chairman William Kennard.

Attachment

Declaration of Dr. Robert A. Mercer

DECLARATION OF ROBERT A. MERCER

I. INTRODUCTION

MCI WORLDCOM, Inc., (“MCI WorldCom”) has asked me to analyze the technical issues presented by the proposal of Bell Atlantic and GTE (“BA-GTE”) to allow the merged company to retain GTE’s existing Internet backbone network provider, GTE Internetworking (“GTEI”), in the event the merger is allowed to go through prior to Bell Atlantic receiving Section 271 authority to provide interLATA services. According to BA-GTE, 1) “the Internet backbone and related services at issue here are, at most, on the periphery of the long distance restriction” embodied in Section 271 of the 1996 Telecommunications Act (“Act”) because such services “are completely separate from the plain old telephone service (POTS) that the LATA restrictions were originally designed to cover;”¹ 2) “the risk of anticompetitive conduct effectively is non-existent” because “the core of [GTEI’s] existing services are separate from the public switched telephone network;”² and 3) the divestiture of GTEI would “materially weaken [it] as a competitor of the Big Three, and “the public interest consequences of this lost competition would be severe.”³

MCI WorldCom has specifically requested that I address the first two claims. This Declaration contains two key findings. First, contrary to BA-GTE’s assertions, the Internet is not “peripheral” to the interLATA restrictions of the Act. The Internet is at the heart of evolving telecommunications services. Therefore, the Internet, and specifically the GTEI backbone, is necessarily central to the ongoing need for long distance restrictions until such time as BA-GTE

¹ *Ibid.*, pp. 6-7.

² *Ibid.*, p. 10.

³ *Ex parte* letter from Michael Glover, Counsel for Bell Atlantic, and Steven Bradbury, Counsel for GTE, to Thomas Krattenmaker of the FCC, February 24, 1999, p. 6.

is granted Section 271 authority to provide interLATA services. Second, if the BA-GTE proposal were accepted, the merged company would have the ability to use its control of local bottleneck Internet access facilities to discriminate against its Internet competitors. Limiting competition for the backbone facilities that are critical to the continuing success of the Internet would be a substantial detriment to those customers. Assuming the merger is not denied on other grounds, which it should be, the risk of discrimination can be reduced if BA-GTE is required to meet the terms of the competitive checklist in Section 271 prior to it being able to provide Internet backbone services.

The remainder of this Declaration is organized as follows. Section II sets forth my qualifications. Section III describes the central role the Internet backbone plays in providing modern inter-LATA communications, increasingly including voice. Section IV discusses BA-GTE's substantial opportunities to engage in discrimination through its control of access to the Internet in its service territories, and the resulting detrimental effect such discrimination would have on the Internet backbone business, and more generally on the Internet itself. Section V summarizes the Declaration.

II. QUALIFICATIONS OF DR. ROBERT A. MERCER

I am the President of HAI Consulting, Inc. ("HAI"), a telecommunications consulting firm created in 1997 from the employees of the former Hatfield Associates, Inc. The firm specializes in engineering, economic, and policy studies in the telecommunications field.

I received a Bachelor of Science degree in Physics from the Carnegie Institute of Technology (now Carnegie-Mellon University) in 1964, and a Ph.D. in Physics from Johns Hopkins University in 1969. After holding a faculty position in the Physics Department of

Indiana University from 1970 through 1973, I joined Bell Telephone Laboratories in 1973. From then until 1984, I held a number of positions of increasing responsibility at Bell Labs and at the AT&T General Departments, culminating in my position as Director of the Network Architecture Center at Bell Labs. In that capacity, I directed an organization that was responsible for planning and systems engineering for the Integrated Services Digital Network ("ISDN") and for advanced data services.

Upon the AT&T divestiture, I transferred to Bell Communications Research ("Bellcore"), where I was the Assistant Vice President of Network Compatibility Planning. In that capacity, I managed Bellcore's support of the Bell Operating Companies ("BOCs") in meeting the technical equal access requirements of the Modification of Final Judgement ("MFJ"),⁴ conducted technical fora with the Interexchange carriers ("IXCs") and other carriers on behalf of the BOCs, managed the North American Numbering Plan, directed Bellcore's involvement in standards-making efforts, and directed technical analyses of various federal regulatory proceedings matters, including an ISDN inquiry, the application of Computer II rules to the divested BOCs, Computer III, and Open Network Architecture ("ONA"). I also played a major role in the formation of a new U. S. standards committee, Committee T1, and was a member of the Board of Directors of the American National Standards Institute ("ANSI").

Leaving Bellcore in late 1985, I held positions with BDM Corporation and AT&T Bell Laboratories before joining Hatfield Associates in early 1987. Since then, I have served as Senior Consultant, Senior Vice President, and President of Hatfield Associates and HAI. At HAI, I am responsible for technical analysis and education related to public and private telecommunications infrastructures, with a particular emphasis on local exchange competition, broadband integrated networks, intelligent networks, and private enterprise networking. For the

past four years, I have been heavily involved in the interconnection, unbundling, and resale issues arising from the 1996 Act. In particular, I have played a key role in the development of the HAI Model (hereafter, the "Model"), which estimates the forward-looking cost of providing basic local exchange service and unbundled network elements. I have made presentations related to the Model in FCC workshops, and have testified and presented workshops on the Model before regulatory bodies in numerous states, including New York, Massachusetts, Pennsylvania, New Jersey, Maryland, Virginia, Minnesota, Iowa, Texas, Colorado, Utah, Nevada, California, Oregon, and Washington.

I have testified on a variety of other telecommunications issues before various state Commissions. For example in 1994, I testified on the extent and viability of local exchange competition before the Illinois Commerce Commission; in 1993, I testified before the Canadian Radio-Television and Telecommunications Commission concerning Comparably Efficient Interconnection and Open Network Architecture principles; and in 1993, I submitted prefiled testimony and rebuttal testimony to the Oregon Public Utilities Commission about the comparability of services offered by U S WEST, GTE Northwest, and Electric Lightwave, Inc., a competitive access provider.

In the past, I have dealt extensively with the FCC's ONA and Video Dial Tone (VDT) concepts. I am a co-author of the well-known "Hatfield Report"⁵ on the implementation of the ONA concept, and co-author of *The Enduring Local Bottleneck* ("ELB-I"),⁶ and the *Enduring*

⁴ US v AT&T, 552 F.Supp 131 (D.D.C. 1982).

⁵ "Open Network Architecture: A Promise Not Realized," paper filed with the Federal Communications Commission in connection with Third Computer Inquiry proceeding (CC Docket No. 85-229), April, 1988, co-authored with Dale Hatfield.

⁶ Economics and Technology, Inc./Hatfield Associates, Inc., The Enduring Local Bottleneck: Monopoly Power and the Local Exchange Carriers, 1994.

Local Bottleneck II, (“ELB-II”)⁷ both of which deal with the ability of alternative providers to enter the local exchange telecommunications business. More recently, I co-authored *The Economics and Technology of Broadband Deployment*, a report that addresses the prospects for broadband competition and the need for competitive safeguards in broadband markets.

I am currently an adjunct faculty member in the Interdisciplinary Telecommunications Program at the University of Colorado, where I have taught a graduate level course on advanced data communications and computer networking and presently participate on thesis committees for the Master of Science in Telecommunications degree. I have also served as an adjunct faculty member at Pace University, teaching courses and seminars on telecommunications topics ranging from network management to voice communications to ATM and other fast packet switching technologies.

As a result of these activities in a variety of different positions with different firms and in different contexts, I am thoroughly familiar with 1) the technology of local exchange and exchange access services, both in their existing largely-narrowband form and in their increasingly important broadband packet switching form; 2) the architecture, operations, and organizational structure of the Internet; and 3) the issues raised by petitions of the BOCs, such as the instant proposal by BA-GTE, for authorization to provide interLATA services.

III. THE ROLE OF THE INTERNET BACKBONE IN MODERN INTERLATA TELECOMMUNICATIONS SERVICES

There is no technical basis for BA-GTE’s assertion that the Internet backbone and related services are, at most, on the periphery of the long distance restriction.⁸ This assertion flies in the

⁷ Hatfield Associates, Inc., *The Enduring Local Bottleneck II*, April 30, 1997.

⁸ I would note that the definition of interLATA service in the 1996 Act is not limited to traditional voice services. See Section 3, paragraph 42 of the Act.

face of the way the telecommunications infrastructure and the services it supports are evolving. The Internet has the capability to serve as a replacement and enhancement for voice and other services customers otherwise purchase from the Public Switched Telephone Network ("PSTN").

In particular, the Internet can:

- Increasingly support voice, using what is often referred to as Voice over Internet Protocol ("Internet voice");
- Support many services that are substitutes for, or augmentations of, voice service, such as chat rooms, electronic mail, and electronic commerce;⁹
- Provide corporate customers with Virtual Private Networks ("VPNs"), discussed in more detail later in the Declaration, that appear to the user of such a network to have the attributes and features of a private network without actually dedicating routers or transmission facilities to the customer; and
- Provide a wide range of communications services increasingly demanded by society in the information age, doing so in an increasingly integrated fashion.

At the same time, traditional suppliers of voice service are moving to the high-speed, packet switching architecture used by the Internet. It follows that the Internet is not "on the periphery of the long distance restrictions." Indeed, over the next few years the Internet will likely evolve to play an increasingly important role in the provision of traditional long distance services.

The fact that neither BA-GTE nor another BOC currently has a dominant position in the Internet does not change the conclusion that the BOCs have the incentive and opportunity to discriminate on behalf of their own Internet backbone suppliers. BA-GTE still has a dominant position in providing switched and dedicated access to the Internet by users. The evolving replacement of the PSTN by the Internet relates to switching and routing functions performed in the Internet. The existing connections to customers will not be eliminated and replaced as a result

⁹ For instance, a consumer can call an 800 or 888 number and place an order for a product with a salesperson, or can electronically order goods over the internet, thus the PSTN and Internet provide equivalent functionality for many consumers.

of Internet developments.¹⁰ Nor, more generally, will the transmission facilities of the PSTN be replaced – they continue to have a central role in the Internet.

IV. BA-GTE'S OPPORTUNITIES TO DISCRIMINATE IN FAVOR OF ITS INTERNET BACKBONE AFFILIATE

A. BA-GTE's Potential Position as a Provider of Internet Services

An Internet session requires the use of 1) the local exchange network for users to gain access to the Internet; 2) ISP computing facilities, such as email and fax servers, web site hosts, and the like; and 3) the backbone routing and transmission facilities that connect ISPs. There is of course a considerable blurring of the ISP and backbone provider roles; furthermore, to the extent they are distinct, some entities play both roles.¹¹ In fact, GTEI, in addition to providing backbone transport for ISPs and large business customers, also provides "Web Hosting, wholesale dial-up Internet service for business and ISP customers . . . and dial-up Internet service for residential customers,"¹² which are services associated with an ISP. What is at immediate issue here is not BA-GTE's authority to operate an ISP as an information service. The issue in the BA-GTE petition is the ability of the merged company to retain the GTEI backbone that provides interLATA transport of Internet traffic.

While the PSTN and the Internet are distinctly different when it comes to the type of switching they utilize,¹³ the same is not true with respect to the underlying transmission facilities

¹⁰ Cable providers are potential suppliers of alternative Internet services. There is no real possibility, however that these service will provide widespread competition for GTE-BA facilities in the next few years. For a discussion of the difficulties faced by cable companies see "Trying to Call But No One's At Home," <http://www.msnbc.com/news/254963.asp>, dated March 31, 1999.

¹¹ ISPs may own or lease interLATA capacity, or they may resell it (for example, they may lease dedicated access from another ISP with a backbone). And of course all ISPs resell backbone capacity to some extent - that is effectively what happens through peering and other arrangements for exchanging Internet traffic because no ISP is connected to all, or even most, Internet users.

¹² BA-GTE *ex parte* letter, at p. 4.

¹³ The PSTN employs circuit switching, in which connections through the network's switches and the transmission

that provide users with access to the Internet and that provide links between the Internet switches. There are new transport providers that are deploying their own fiber-optics-based backbone networks. Nevertheless, extensive use is also made of existing transmission facilities from the PSTN. This is particularly true with respect to the “last mile”¹⁴ between end users’ premises and the ISPs that serve as their entry point into the remainder of the Internet. To the extent an entity such as BA-GTE has a monopoly, or near monopoly, in the provision of Internet access facilities in its service territory, it has the opportunity to discriminate in favor of its own Internet operations. By differentiating the quality of access provided to its own ISP versus other non-affiliated ISPs, it can favor its own ISP.

If BA-GTE is allowed to favor its affiliated ISP in this fashion, there will be two effects. First, it will enhance BA-GTE’s position in the information services marketplace, because ISPs offer a growing variety of information services, such as hosting electronic mail, web site hosting, information access and manipulation, and host services for non-Internet PCs. Second, inasmuch as it is the ISP that selects the Internet backbone facilities that link different Points of Presence of an ISP to each other and to the POPs of other ISPs, and since the ISP’s customers normally have no say in this selection, the ISP can favor the Internet backbone provider that is affiliated with the ISP’s parent.

There is an even more direct way that BA-GTE could favor an affiliated Internet backbone provider. Backbone providers, including GTEI, directly provide backbone services to some customers, typically large corporate customers purchasing VPNs. The overall quality and

facilities that interconnect the switches are established and maintained for the duration of a call. The Internet uses packet switching, in which units of data, called packets, from different customers are interleaved in the switches and across the connecting facilities; packets associated with different communications sessions that are being routed over the same paths are differentiated by “header” information in each packet that indicates the session with which that packet is associated, allowing different packets to be routed to different destinations.

¹⁴ More accurately, on the average, the last 2-3 miles between the customer premises and the central office of the telephone company that serves them.

reliability of such backbone services as seen by the customers are highly dependent on the quality and reliability of access to the backbone. BA-GTE can favor its backbone affiliate by differentiating in the quality of the access links to it and other backbone providers..

Thus, BA-GTE's control over Internet access can be leveraged into favoring both its ISP affiliate and its own Internet backbone facilities. It was, of course, concern about a BOC leveraging its bottleneck control over access to long distance carriers to discriminate in favor its own long distance affiliate that led to the interLATA restrictions of the MFJ, and subsequently, Section 271 of the Act.

In summary, then, as a provider of local access, ISP services, and backbone facilities, BA-GTE would be in a position to use its monopoly control of local access to ISPs to favor its own ISP affiliate, and both directly and indirectly, its own backbone facilities. In doing so, it could imperil competition in the provision of Internet-based information services and Internet transport. Both are obviously of great concern.

GTE by itself is arguably capable of engaging in this behavior today in the scattered regions where it owns local bottleneck facilities. Bell Atlantic has the ability to favor the Internet services that it currently resells in its region. While discrimination is certainly already possible with the "dial-up" or dedicated circuits that are the dominant form of Internet access today, changing technology will make discrimination much more likely in the future. In particular, new forms of switched and dedicated broadband Internet access being demanded by customers will provide substantial new opportunities for discrimination.

Moreover, as discussed in the Declaration of Kenneth Baseman and Daniel Kelley,¹⁵ the BA-GTE combination, together with other actual or proposed mergers between and among local

¹⁵ See Declaration of Kenneth C. Baseman and A. Daniel Kelley, filed by MCI WORLDCOM, Inc., in FCC CC Docket No. 98-184, In the Matter of Applications for Consent to the Transfer of Control of Licenses and Section

telephone companies, also increases the level of concern about such behavior. The two largest ILECs will control access to the Internet for about two-thirds of the population of the country. If this control is leveraged into the ISP and Internet backbone businesses prior to development of local competition, competition in the Internet generally could be adversely affected.¹⁶

B. Forms of Access Discrimination by BA-GTE

How could BA-GTE exercise its monopoly control of local access to discriminate in favor of its ISP affiliate, and in turn its own backbone? To answer this question, I will first briefly portray the nature of the local exchange network and two developments that are taking place in that network that are key to the PSTN's support of Internet services. I will then introduce the Internet VPN, an Internet service that, while relatively new, is of growing importance to a key class of Internet users, large corporate customers. Finally, I will discuss two ways in which BA-GTE can discriminate in favor of its Internet subsidiaries using these new technologies.

1. Components of the Local Exchange Network

In brief terms, the local exchange network, whether in its current form as part of the PSTN, or its emerging form as an integrated broadband network ("IBN"), contains three essential elements:

- The local loop;
- The local switch;
- Interoffice transport facilities, including transmission facilities and, often, intermediate "tandem" switches that provide connections between local switches.

214 Authorizations from GTE Corporation, Transferor, to Bell Atlantic Corporations Communications Inc., Transferee.

¹⁶ Baseman and Kelley describe the incentives large ILECs would have to "tip" the Internet towards incompatibility if they obtain a large market share in the Internet backbone business. See p. 59.

The local loop is the connection between a customer's premises and the "central office" or "wire center" location that serves the customer. The local switch technology takes two rather different forms, depending on whether one considers the PSTN or the emerging IBN (defined below). In the PSTN, the local switch is a "circuit switch" that establishes paths on demand between loops and trunks as part of the overall connection between the calling and called customers. In the IBN, the local switch is a "packet switch" that processes and routes individual data packets between loops and trunks based on destination information contained in the packet headers. The interoffice transmission facilities, often called trunks, connect local switches to each other, to tandem switches, and to LEC and IXC toll and long distance switches.

2. Evolution in the Local Exchange Network

The enormous success of, and growth in, the Internet is fueling an interest in new network architectures and technologies that can deliver broadband services to the consumer. In high-level terms, the following local exchange network changes are leading to the IBN:

- The local loop is evolving from voice-oriented narrowband, analog transmission to integrated broadband digital transmission;¹⁷
- Switching is evolving from voice-oriented circuit switching to integrated fast packet switching;¹⁸
- Interoffice transmission facilities are evolving from voice-oriented narrowband circuits to integrated broadband "bit pipes" that utilize the full available bandwidth to transmit a single stream of bits carrying the digital "packets" for all applications.¹⁹

¹⁷ "Narrowband" refers to either analog communications with a frequency range sufficient to carry a high-quality voice signal or digital communications up to 64 kilobits per second (kbps). "Broadband" refers to digital communications at bit rates of more than 100 kbps; in some contexts, it refers to bit rates in excess of 1.5 million bits per second ("Mbps"), with the bit speed range between narrowband and broadband being called "wideband."

¹⁸ The packet switching protocol used can be the Internet Protocol ("IP"), Asynchronous Transfer Mode ("ATM"), Frame Relay, a combination of IP with one of the other two, or another yet-to-be-defined packet protocol.

¹⁹ That is, in voice-oriented transmission systems, the available capacity is divided into multiple "channels" of 64 kbps each. In the IBN, the aggregate capacity of the transmission system may be no greater than for voice systems, particularly in the early stages of the IBN, but the available capacity is used to carry one, or a few, high-speed channels operating at speeds of 10's to 100's (and, possibly, eventually even 1000's) of Mbps.

At a greater level of detail, two specific developments are important in understanding BA-GTE's opportunities for discrimination: xDSL loops, and interoffice fiber rings based on the Synchronous Optical Network ("SONET") standard.²⁰

a. xDSL

xDSL is an acronym for Digital Subscriber Line, where the "x" indicates one member of the family of such technologies. A number of different members of the family have been, or are being, defined. The most prominent among them are Asymmetric DSL ("ADSL") and High-bit-rate DSL ("HDSL"). ADSL, which itself comes in several variants, is thought of as the technology most applicable to residences and small businesses; HDSL is viewed as a cheaper, quicker way to provide conventional digital "T1"²¹ dedicated circuits to the premises of larger businesses.²²

The entire xDSL family is defined to operate over existing copper loops that meet certain conditions. Included among these conditions are that loops cannot exceed a length of 18,000 feet, loops may not have any significant amount of "bridge tap",²³ may not create interference with other xDSL customers served from the same cable, and, for now, may not be served by a digital loop carrier ("DLC") system in the feeder portion of the network.²⁴ These conditions are stringent enough that only 50-60 percent of customers may have access to xDSL;²⁵ as long as the DLC restriction is in effect, the percentage is considerably lower.

²⁰ The international standards equivalent of SONET is the Synchronous Digital Hierarchy ("SDH")

²¹ T1 is a well-known transmission format involving a transmission speed of 1.544 Mbps simultaneously in each direction.

²² HDSL requires two wire pairs to achieve the two-way T1 signal. Symmetric DSL, or SDSL, operates over a single pair and can still achieve up to the T1 rate; however, there are more stringent conditions on the loops utilized.

²³ "Bridge tap" refers to the extension of the pair of wires serving a given customer past that customer in case the customer later discontinues service and the pair is needed to serve a customer further away from the central office.

²⁴ The latter restriction is likely to disappear over time as DLC-compatible xDSL systems are deployed. U S West announced a trial of ADSL over DLC would take place during the first quarter of this year.

²⁵ "Can't Get Enough DSL," Network World, 11/16/98, p. 55.

Deploying xDSL involves the attachment of xDSL terminal equipment to each end of the wire loop; thus one end is at the customer's premises²⁶ and the other in the CO. The high bit rates are attained through the use of sophisticated signal processing algorithms in the xDSL equipment.

ADSL permits a customer simultaneously to make a voice call and to send and receive data over a single wire pair. It is "asymmetric" because it normally transmits at a higher speed downstream (from the network to the customer) than upstream (from the customer to the network). The downstream signal bit rate ranges from about 1.5-8 Mbps, depending on the loop length; with the lower end of this range being available out to 18,000 feet or more from the CO. In addition to the high-speed downstream signal, there is also a bi-directional signal whose bit rate can be as high as 1 Mbps, but is more often a few hundred kilobits per second.

The simultaneous presence of voice and high-speed data on a line requires a signal "combiner/splitter" at each end of the loop, although the premises splitter may be included on the ADSL modem card inserted in the PC. Looking at the CO end, the signal passes through the splitter that separates the voice and digital signals, passing the voice on to the voice switch, and passing the digital signal to a DSL Access Multiplexer ("DSLAM"). The DSLAM combines/separates the two digital signals that may be present. These signals are then sent to a fast packet switch, which may be an Internet router, Asynchronous Transfer Mode ("ATM") switch, frame relay switch, or another element, such as a video server if ADSL is being used to provide video services. Generally, the first ADSL application has been Internet access, so IP datagrams encapsulated in ATM cells are transmitted over the ADSL loop and passed to an Internet router.

²⁶ One major variant of ADSL, unofficially called "ADSL G.lite" (or just "ADSL Lite"), in lieu of its more formal standards designation, does not require separate equipment at the customer's premises except for a modem card that

ADSL must be provisioned differently than standard circuit switched connections, for several reasons. First, since loops must meet certain conditions to be suitable for ADSL, more sophisticated loop administration is required to identify and assign appropriate loops when a customer orders service. Second, because the ADSL signals from wire pairs located within a single “binder group”²⁷ can interfere with each other, additional loop administration is required to ensure there are not too many ADSL signals carried on pairs within a given binder group. Finally, and most significantly, ADSL is designed as a wire pair technology, and it must be provisioned differently when customers are served by a fiber optic digital loop carrier (DLC) system.

Concerning the last of these requirements, a loop is composed of two portions, feeder and distribution. The feeder portion extends from the CO to a so-called Feeder-Distribution Interface (“FDI”) in a cable enclosure located within a mile or two of the premises served by that loop. Feeder cables typically have a large “cross-section” – that is, a large number of premises are served by a single feeder cable that typically contains a large number of wire pairs. The distribution portion of the loop extends the remainder of the way from the FDI to the premises. Here, the number of pairs in the cables are smaller, since each cable typically serves only a small number of customers.

In a DLC system, the feeder portion of the loop does not consist of individual wire pairs, but of a fiber optics transmission system in which individual voice signals are digitized, multiplexed (combined into a higher-bit-rate composite signal) and converted to optical form for

is plugged into the customer’s PC.

²⁷ The pairs in a cable are divided into units called “binder groups” which are intertwined in a fashion that minimizes interference between different binder groups, but this generally does not prevent interference between signals on the pairs within a single binder group.

transmission between the CO and a remote terminal (“DLC RT”) located at or near the FDI.²⁸

While such a fiber optics system utilizes a high bit rate, the system, like the interoffice portion of a voice network, is “circuit-oriented” – that is, the bandwidth is organized and allocated to efficiently carry narrowband digitized voice signals.

For a DLC system to carry ADSL, several things must happen. First, the DSLAM must now be located at the DLC RT, rather than in the CO. Second, special plug-in cards in the RT and CO end of the fiber system must be utilized to carry the ADSL bit stream, which has a far higher bit rate than the digitized voice signal, over the fiber optics system. Third, even when this is done, ADSL consumes far more bandwidth – a higher bit rate – than does a digitized voice signal. Thus, unless either the fiber optics electronics are upgraded to a much higher bit rate, or spare fibers are used to carry the ADSL signals, there may not be sufficient capacity in the DLC system to serve a significant number of ADSL customers. In either case, the solution is relatively costly on a per-customer basis because it consumes so much of the DLC system’s capacity, and it requires considerably more administration – for instance, to assign multiple channels or extra fibers to ADSL – than does a DLC system used solely for voice.

In summary, ADSL is the technology most favored by incumbent telephone companies to provide the access portion of the broadband network that society is increasingly demanding. But ADSL loops and “standard” loops are significantly different. Loop administration for ADSL is complicated by the need to carefully assign wire pairs and/or digital capacity needed to carry high-speed digital signals. Additional administration is required to properly combine voice and data signals on the same loops. There may or may not be enough capacity on a DLC system to

²⁸ DLC systems do not require fiber optics transmission systems. DLC systems were originally designed to operate on copper wire pairs. However, the purpose of DLC systems is to increase the efficiency of feeder facilities by multiplexing many signals onto a single transmission facility, and since that efficiency can best be achieved by using fiber optics, it is increasingly unusual today to find DLC systems on copper feeder pairs deployed in the network.

carry xDSL signals without upgrading the electronics or installing additional fiber. The proper interconnection of the ADSL bit stream with fast packet switches in the CO or at an interconnection hub requires rigorous attention to the appropriate interconnection standards; the relatively little experience with such interconnection suggests there will likely be numerous “bugs” to work out. As discussed further below, these differences between the evolving IBN and the existing local exchange network provide opportunities for discrimination.

b. SONET-based Optical Fiber Transmission Systems

The initial fiber optics transmission systems were based on vendor-proprietary systems operating at a variety of non-standard transmission rates. This meant that the systems of two or more vendors could not be interconnected. This is particularly problematic in considering “mid-span meets” between two or more networks provided by different entities – such as occurs in exchange access.

As a result, as carriers began deploying fiber optic transmission systems, there was an increasing motivation for, and interest in, the development of optical transmission system standards.²⁹ This culminated in the late 1980’s with the adoption of the SONET family of standards. SONET specifies standard line rates, optical interfaces, and signal formats. It is intended to create a transmission environment that encourages the ubiquitous deployment of high-speed fiber optics transmission, while lowering costs and providing a transport infrastructure that helps to simplify the network.

In addition, the SONET formats include a substantial amount of overhead that enables the development and deployment of operations support systems (“OSS”) that communicate with each other and with the components of the SONET facility using the overhead bits. OSS provide

²⁹ Earlier fiber optics transmission system “standards,” such as the Digital Signal Level 3 (“DS-3”) specification widely used in the U.S., did not completely specify all the attributes necessary to cause systems produced by

more rapid circuit provisioning, better monitoring of transmission performance to facilitate the early detection of problems, faster and more accurate maintenance, and automatic real-time network reconfigurations in the face of facility failures due to cable cuts and the like.

Concerning the last of these benefits, SONET is forming the basis for so-called “self-healing networks.” Such networks are typically built in a ring configuration, providing at least two paths³⁰ between any two points on a ring or a set of interconnected rings, and allowing the system to transmit over whichever path provides better transmission quality at any instant in time. Thus, if one path fails, or deteriorates in transmission quality, the SONET equipment simply switches to another path.

SONET, and the sophisticated operations that it enables, allow major advances in the ability to rapidly, effectively, and accurately operate broadband transport systems. Such advances include circuit provisioning, facility and circuit monitoring and surveillance, maintenance, and network reconfiguration. At the same time, these advances can be fully realized only if sophisticated SONET-based OSS are deployed. Where multiple network providers share the same SONET transport facility, the different providers’ systems must implement the same SONET standards and be configured to communicate with each other. This involves fairly complex OSS coordination between different – and often competing – entities.

3. The Internet Virtual Private Network

An Internet VPN is an arrangement in which the customer purchases what appears to be a private network -- a network whose routers are owned by, or dedicated to the use of, the customer, and whose links connecting the routers are dedicated to that customer -- but in reality, the customer’s traffic is actually routed across the Internet in common with all other users’

different vendors to be fully compatible with each other.

³⁰ For instance, in a single ring, the two ring segments connecting the two points.

traffic. VPN customers observe service reliability and quality attributes equivalent to what they could expect from a private network. These attributes include, for instance, availability,³¹ packet delays, throughput levels, security, and management visibility. They are embodied in a set of Service Level Agreements (SLAs) between the customers and the VPN provider.

To meet its SLAs, the VPN provider must typically invoke special measures, such as assigning high priority to the transmission of packets associated with the VPN, extra care in administering routing software to ensure no packets are directed to the wrong destination, and so on. In turn, this requires close monitoring and management of the network resources that are used by the VPN customer.

VPN's are increasingly used to provide the site-site links in corporate "intranets," which are private (single-company) internets, and "extranets," which are quasi-private (multiple-company) internets typically used for sharing relevant electronic commerce information between the cooperating companies. As such intranets and extranets grow in importance, so, too, do the VPNs that underlie them.

4. Opportunities for BA-GTE to Discriminate in Favor of its Internet Operations

I will now consider the opportunities for BA-GTE to discriminate in its provision of PSTN resources in favor of its Internet affiliates.

a. Discrimination in the Provision of Internet Access via ADSL

Customers reach their ISPs, and hence access the Internet, in one of three primary ways:

- The bulk of residential consumers establish a PSTN call to their ISP using their PC modem, and communicate with the ISP over the copper loop and switched local exchange connection;
- Small and large business customers have dedicated digital circuits to the ISP; and

³¹ The percentage of time a user on the network can exchange traffic with any other user.

- A few, but growing, number of residential and small business customers have ADSL, and access their ISP over the “data” portion of the ADSL to the CO, from whence the bit streams from multiple customers are consolidated onto a high-speed digital transmission facility for transport to a central hub, where a fast packet device routes each customer’s packets to the designated ISP.

I will focus on discrimination in the provision of ADSL because that is where the greatest risk is. This is not to say that there is no risk of discrimination with dial-up or dedicated circuits being used today. Clearly there is, but dial-up and dedicated circuit services are technologically stable and somewhat transparent to the uses to which they are being put. Newer services, such as ADSL, that are targeted at Internet applications and are currently in the process of development and deployment, provide much greater opportunity for discrimination. Moreover, Internet traffic has been a small proportion of the total local traffic, but the incentive to engage in discrimination in the operation of services used to carry Internet traffic, and especially those like ADSL designed primarily to carry Internet traffic, increases as the relative amount of Internet traffic grows.

In the case of ADSL, discrimination can take the following forms. First, the BOCs have taken the position that they do not have to provide unbundled ADSL. If this position prevails, they could be in the position of providing ADSL lines only to customers of their ISP affiliate, while requiring other unaffiliated ISPs, or the CLECs that provide local connections to those ISPs, to purchase basic loops and add their own ADSL equipment in each CO. This would result in a tremendous advantage for the BA-GTE ISP affiliate because, obviously, BA-GTE already has a presence in each CO, and can run links from there to its own ISP. By contrast, other ISPs are typically more centrally located, and even CLECs find it financially burdensome to collocate in every CO. Furthermore, CLECs have serious practical problems obtaining reasonable collocation where they can gain efficient and cost-effective access to ADSL-capable loops. The

FCC's new rules on cageless and mini-collocation have just been released, so there has been no operating experience with them. In many end offices, ILECs claim that no collocation space is available; even if it does exist, the price ILECs charge for the space are prohibitive, especially for new entrants with a handful of customers.

Second, even if a competitor were willing and able to install its own ADSL equipment on basic unbundled loops, BA-GTE can discriminate based on the involved administration required to provide such loops. As I discussed earlier, only a limited number of loops in a given binder group can be provisioned with ADSL, due to problems with interference between adjacent wire pairs. In addition, if a customer's loop is provisioned over a fiber DLC system, there are two issues. The first is who provides, installs, and manages the required DLC plug-in cards. The second is a capacity issue: the capacity of a DLC system can be quickly exhausted if ADSL achieves any significant penetration rate. Alternatively, the ADSL signals could be carried on separate fibers over the feeder portion of the outside plant, but this solution raises the additional issues of the availability to competitors of "dark fiber" in the feeder cable. Collectively, these issues provide abundant opportunities for BA-GTE to discriminate against non-affiliated ISPs. Specifically, BA-GTE can hamper the provision of ADSL to the customers of non-affiliated ISPs by a) claiming sufficient wire pairs are unavailable in particular cables serving those customers, sufficient fiber capacity does not exist on DLC systems serving those customers, loops serving the customers are unable to support ADSL, and/or collocation space does not exist in an office where an ISP or CLEC wishes to collocate; and b) performing slow or inaccurate loop administration that is needed to assign loops to the ISPs/CLECs. Even if ISPs or CLECs ultimately are able to provide ADSL service to Internet customers, the delay may cause customers to sign up for BA-GTE's services, which BA-GTE can provide much faster.

Third, BA-GTE may attempt to impose recurring and non-recurring charges for ADSL-capable loops that exceed their forward-looking economic costs. To the extent they are able to do so without being detected, or without the provisions of the Commission's local competition rules being effectively enforced, competition is diminished, and opportunities for anticompetitive price discrimination exist.

Fourth, BA-GTE has ample opportunity to discriminate in the connection of the Internet router or fast packet switches at the CO end of ADSL loops. When customers order an ADSL loop, they are in contact with BA-GTE personnel who must take their order, verify their loop is suitable for ADSL, and describe how the customer must go about selecting and contacting an ISP to which the customer's line will be connected. The BA-GTE sales agents can use this opportunity to imply that the customers will have an easier time if they use the ISP affiliate, or to otherwise discourage customers from using alternative ISPs.

Finally, the present mode of offering ADSL is that it is an "all or nothing" proposition where a single ISP is connected to the broadband access line and processes all the customer's traffic. Thus, there is in effect a single supplier of ISP applications and routing services. This is opposed to two alternative schemes, either of which would provide less opportunity for the forms of discrimination described above. First, BA-GTE could attach a fast packet switch to the access line and offer non-ISP switched connections that would allow customers to designate which ISP they wanted to access on a session-by-session basis; in this arrangement, BA-GTE would be offering a basic packet switching service used to access all ISPs and services offered by other service providers. Second, much like the Commission's VDT construct,³² the customer could

³² In the Matter of Telephone Company-Cable Company Cross-Ownership Rule, CC Docket No. 87-266, Further Notice of Proposed Rulemaking, First Report and Order and Second Further Notice of Inquiry, 7 FCC Rcd 300 (1991); Second Report and Order, Recommendation to Congress, and Second Further Notice of Proposed Rulemaking, 7 FCC Rcd 5781 (1992); Memorandum Opinion and Order on Reconsideration and Third Further

initially access the provider of a competitively-neutral ISP selection screen. On the screen the customer would designate the ISP it wanted to access, and the customer's packets would be routed to that ISP. In both cases, customers would have a choice of ISPs, and access to all of them, including the BA-GTE affiliate, would be over the same ADSL link. Thus BA-GTE could not discriminate in the deployment of ADSL in favor of its own ISP affiliate, and in turn, could not discriminate in favor of its own backbone provider.

Bell Atlantic has plans to rapidly deploy ADSL services. According to Bell Atlantic,

Infospeed DSL is available today in parts of the Washington, D.C., Pittsburgh and Philadelphia metropolitan areas and the Hudson River waterfront communities of New Jersey. It will be offered to residents of the New York City and Boston metropolitan areas beginning this spring. By the end of 1999, always-on Infospeed DSL service will be deployed in communities with more than 8 million households in Bell Atlantic's service area.³³

It now appears unlikely that Bell Atlantic will have fully implemented the Section 271 competitive checklist through its region in this time. After all, it would not be seeking a minimum two-year waiver if it expects to achieve region-wide Section 271 compliance in this calendar year. This rapid deployment prior to Bell Atlantic coming into compliance with the Section 271 check list obviously creates concerns, because it means that CLECs and ISPs will not have the opportunity to provide broadband local services that Sections 251 and 271 are intended to ensure before Bell Atlantic can provide in-region interLATA services.

b. Discrimination in Providing Access to Internet VPNs

Notice of Proposed Rulemaking, 10 FCC Rcd 244 (1994).

³³ See "Bell Atlantic.net Customers Price of Infospeed DSL Package," <http://www.ba.com/nr/1999/Mar/19990331001.html>, viewed April 1, 1999.

Discrimination in the provision of access to Internet VPNs might have a particularly deleterious impact on competitive providers of backbone facilities. Of key concern to Internet VPN customers is the ability of ISPs and backbone providers to guarantee high-quality service through so-called service level agreements ("SLAs"). The current state of such performance guarantees was captured in the following observations of an industry observer:

If [a] packet crosses the networks of multiple ISPs, these ISPs will have to define compatible SLAs and handle the packets in a comparable way for customers to receive the end-to-end service for which they've contracted. If two ISPs have incompatible SLAs, . . . the customer's end-to-end service will be "squishy."

I don't know about you, but I don't think squishy [Class of Service] is going to cut it for voice. Or video. . .

There is general agreement that [a] forum is needed to clarify the business drivers behind [Quality of Service], bring the relevant technologies into focus and push interoperability testing. Such a forum is needed if IP-based CoS is to become a reality on the Internet. If the industry must rely on bilateral SLAs to achieve end-to-end service, we'll never get out of the squishy phase.³⁴

To meet the SLAs associated with VPNs, the providers will have to invoke stringent management measures. These relate to all phases of network design and operations, including facilities and circuit provisioning, monitoring, and maintenance. Given the end-to-end (site-to-site) nature of a VPN, management must be done on an end-to-end basis as well. Thus it requires coordination between the PSTN provider of access links from customers premises to the backbone and the backbone itself.

Both the access links and the backbone facilities are increasingly likely to be provided over a high-speed, SONET-based fiber optics transmission system. One might expect that the deployment of such standards-based systems would facilitate the interconnection of the BA-GTE access facilities with the Internet backbone facilities involved in the VPN. That is certainly the intent of such systems, and in an environment where BA-GTE had no incentive to discriminate

against unaffiliated providers of backbone facilities, those benefits might be realized.

Nevertheless, the very sophistication of the systems provides the potential for discriminatory behavior by BA-GTE in favor of its affiliated backbone operations.

This seeming contradiction occurs because when a system has the potential to achieve lower prices and better quality, plus offer better management capabilities, the uneven application of that technology will increase the differences between those that have the technology and those that do not. Because BA-GTE controls the SONET systems on its access facilities, it is in a position to practice all of the following forms of discrimination:

- Failure to deploy facilities, such as sufficiently-interconnected fiber rings, required to fully take advantage of the real-time failure recovery mechanism built into SONET;
- Selective use of the advanced provisioning and maintenance capabilities, which enable both faster and more accurate operations, on facilities used for VPNs provided by their backbone affiliate, but not on facilities for VPNs supplied by other backbone providers;
- Refusal to, or only slowly, respond to alarms and trouble reports generated on links to the unaffiliated ISPs;
- Refusal to permit communications between the BA-GTE network elements and the SONET-based management systems deployed by the non-affiliated backbone provider on grounds such as potential network harms or privacy concerns that are non-existent or avoidable;
- Failure to carry out the operations activities that are not automated by SONET, such as facility construction, equipment maintenance, and the like, in a timely fashion;
- Collection and analysis of data that reveals competitively-sensitive information about their competitors, such as circuit counts, traffic volumes, and the like, that thereby gives BA-GTE the ability to compete more effectively; and
- Unwillingness to generate or receive particular message sets that backbone providers' networks and customer management schemes may require.

This last form of potential discrimination is worth some discussion. The SONET standards provide for a great deal of overhead that can be used to carry operations information.

³⁴ Mary Petrosky, "Beware the Cult of IP," Network World, 12/21/98, p. 38.

In effect, SONET-based operations systems and network elements have available to them separate “virtual circuits” for carrying the management information they need to share. But most of the specific messages that might be carried over these circuits have not been defined, and in fact, may vary between one vendor of equipment and another. A backbone provider might identify a particular management message – for instance, carrying a particular kind of data, alarm, etc. – that it would find useful to better manage its network or to provide valuable information to its customers’ operations systems. But the implementation of that message would require the cooperation of BA-GTE to generate, receive, and/or act upon it. Were BA-GTE to provide preferential treatment of its own backbone affiliate’s requests to implement such new messages, it could provide a substantial advantage to that affiliate. Yet it would be very difficult to detect in any systematic fashion.

V. SUMMARY

It is simply inaccurate for BA-GTE to characterize the Internet as being “peripheral” to the issue of long distance restrictions, particularly in light of the ongoing evolution of the PSTN to an integrated broadband network capable of supporting all applications, including voice, and the rapid growth of non-voice traffic compared to voice. Given its in-region dominance over local access to the Internet, and the key role local access has in the overall Internet experience of customers, BA-GTE would be in a position to discriminate in favor of its Internet affiliates that provide Internet ISP and/or backbone services. Furthermore, in light of the planned rapid deployment of new broadband access services over the next few years, premature entry by BA-GTE into the interLATA Internet business carries with it greater risks that technical and price discrimination can and will be employed. New technology actually increases, not lessens, the

potential for discrimination, because its advanced capabilities can be selectively applied in favor of some entities and not others.

The opportunities for discrimination, and the effects of that discrimination, are at least as great, if not greater, for large business customers that purchase advanced services like Internet VPN. This gives BA-GTE the opportunity to disadvantage its competitors in competing for the business of these critical customers.

I declare under penalty of perjury that the foregoing is true and correct.

Signed: Robert A. Mercer
Robert A. Mercer

Dated: 9 April 1999